CalAERO
Volume 2 Issue 2
Division of Aeronautics
California Department of Transportation
April 2010

INSIDE:

Sorry We're Closed

As mandated by the Governor's Executive Order S-13-09, Caltrans offices will be CLOSED the first three Fridays of every month thereafter, until June 30, 2010.

Please be patient as we work to provide you with the best customer service within the time constraints.

Keeping Airports and Aviation Safe

By: Philip Crimmins

California has nearly 250 public use airports and 500 special use heliports. Caltrans Division of Aeronautics employees work long hours helping their aviation customers and airports continue to be safe and integral components of the State's air transportation system. They work with many partners, including airport owners, local governments, and the Federal Aviation Administration. The Division also works with Caltrans districts and regional planning agencies, lending aviation expertise on multimodal and compatible land use planning efforts.

State-level support for aviation has been around for more than 60 years. The legislature recognized the economic benefits the State was enjoying from post-World War II aviation activities at surplus military airports and a booming aviation industry. As a result, they signed the Aeronautics Act in 1947, which created the California Aeronautics Commission. The legislature declared their intent to "further and protect the public interest in aeronautics and aeronautical progress." They created a long list of efforts that included aviation safety, development of a statewide system of airports, advocacy for aviation as part of the State's transportation system, and meetings with stakeholders to obtain information on the status of the aviation industry.

Since the Act's passage, the State has advocated for an aviation system that is safe, reliable and capable of moving people and goods in a global network. The Aeronautics Commission later became the Division of Aeronautics and was located at Sacramento Executive Airport for many years. Since 1973, it has been located within Caltrans to better link aviation with other modal divisions in the Department and to continue serving the public's aviation needs.

At its core, the Division is the State's authority for general aviation activity, specializing in airport safety and informing decision makers about the value and nature of aviation in their communities. The State's 29 commercial service airports usually have far more financial resources than most general aviation facilities. Therefore, their eligibility for State grants is more limited.

The Division's Aviation Safety Officers inspect all of California's public-use airports for compliance with applicable federal and State airport design standards and work with airport management to fix deficiencies. A key element of the inspections includes identification of structures that could affect the safety of aircraft using the airport. Construction of new commercial and residential dwelling structures just outside of airport property, where none previously existed, has spurred community development discussions all over the State.

The Division engages in many of these conversations by sharing its aviation expertise in stakeholder meetings and through policies established in its Airport Land Use Planning Handbook. This nationally recognized handbook is used to make decisions for development on land surrounding airports.

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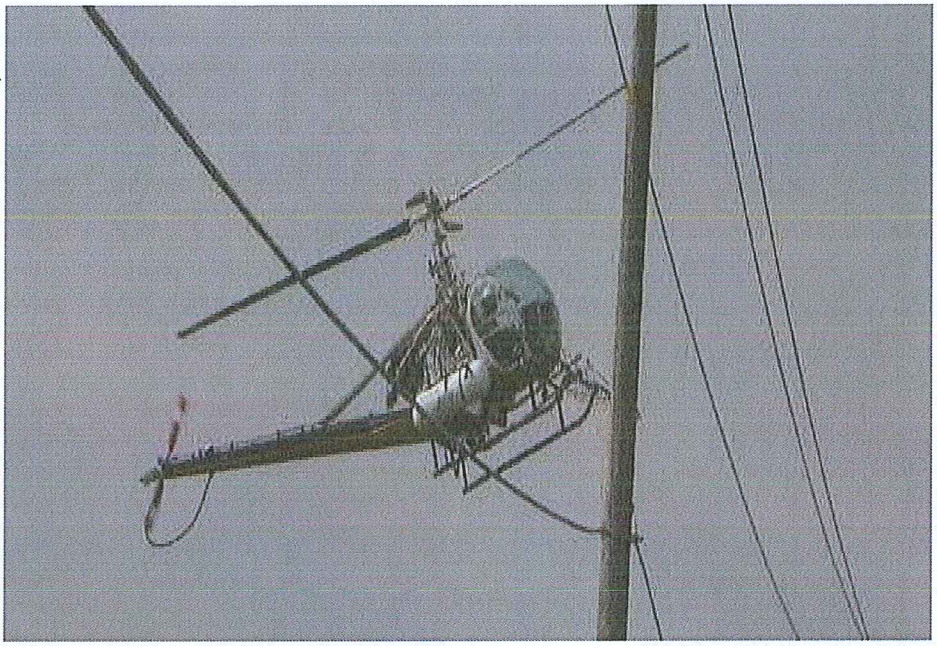
Wire Strike Awareness

By: Jeff Brown

Look in the "What is New?" section of the Caltrans Division of Aeronautics (Aero) website for a link to a new "wire strike awareness" video. This video, entitled "Surviving the Wires Environment" and running about 25 minutes long, was produced by Southern California Edison, in cooperation with the Helicopter Association International (HAI) and AEGIS Insurance.



Southern California Edison Helicopter

Collisions between aircraft and power lines, transmission towers, and antennas have long been and continue to be a potential aviation danger. New towers, lines, and antennas are being built every year to meet the needs of growing population centers and new energy sources. Many of these possible hazards are not marked on charts. The video seeks to identify and discuss key issues pilots face in low-level operations (i.e., below 1,000 feet, the "wires environment").

Although the video focuses more closely on helicopter operations, wire strikes are a potential danger to all pilots, as you can readily see in all-too-frequent news accounts.

While the video producers stress that "the video is not a substitute for a formal wire avoidance training program," the video provides valuable information. We recommend pilots and others in the aviation industry take the time to view this video and increase their awareness of wire strike hazards. Note: the Aero website link takes you to the HAI website, www.rotor.com where there is a link to the free streaming video, with viewing at no cost to all, regardless of HAI membership status.

Keeping Airports and Aviation Safe

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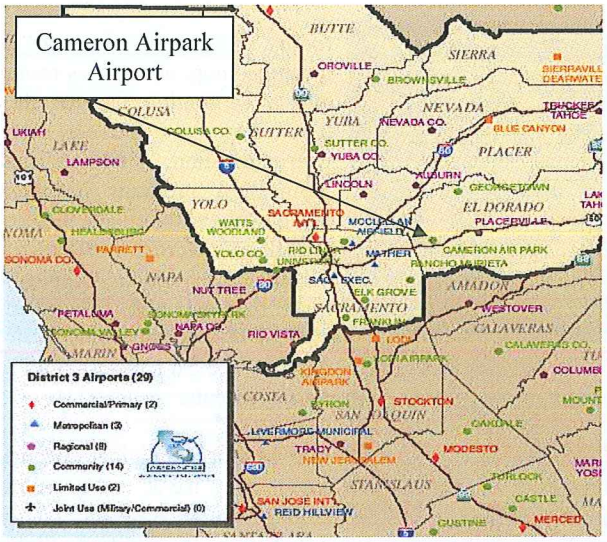
The Division of Aeronautics also supports aviation in many other ways. The California Aid to Airports Program helps fund capital improvement projects and airport maintenance costs. Technical engineering services are available for runway and taxiway pavements, and the Division creates airport maps with safety zone overlays that aid land use planning decisions. Division staff provide comments on California Environmental Quality Act and National Environmental Policy Act environmental documents and carry out and monitor the State's noise standards. They also make sure that all short-term and long-term planning documents and research efforts properly address aviation.

Since the first flight more than one hundred years ago, aviation has made steady improvements. For many reasons, it is safe to say progress will continue. Whether those advances help aviation efficiency in the air or on the ground, Caltrans' Division of Aeronautics will look for ways to aid their development for public benefit.

Cameron Airpark Airport

By: Regina Vinson



Cameron Airpark Airport is a medium general aviation airport located east of Sacramento on the north side of Highway 50 in El Dorado County. This airport operates year around. It has a single runway, 13/31, which is 4,051 feet long and 50 feet wide. The Department of Transportation, Division of Aeronautics conducted an inspection on February 4, 2008, and the report described the condition of one taxiway being in very poor condition and the other with significant cracks throughout. An application to fund and repair the damaged pavement was submitted to and approved by Aeronautics.

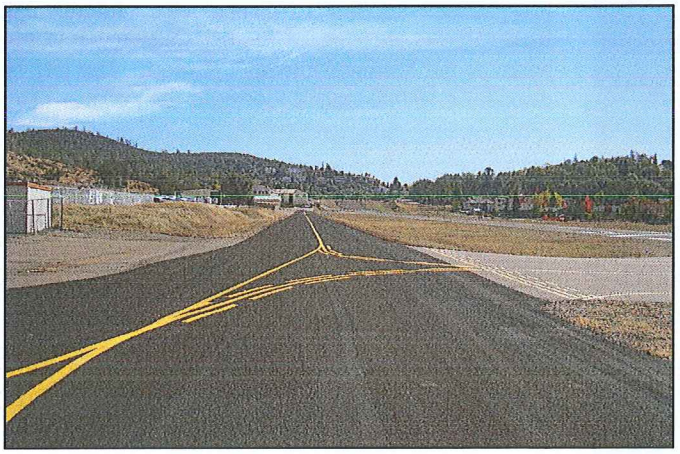
The scope of work was to remove the damaged asphalt, repave, crack seal, slurry seal, and repaint the taxiways according to FAA pavement and marking standards.

The construction commenced in September 2009. It was completed and approved by Division of Aeronautics engineers on October 31, 2009. The Division of Aeronautics Acquisition and Development Grant total cost for this project was $87,364.

Before: Taxiway Failed Pavement

After: New Paved and Marked Taxiway

Before: Significant Asphalt Cracks and Confusing Markings



After: Crack Seal and Slurry Seal

Marina Municipal Airport

By: Carol Glatfelter and Don Haug

The Marina Municipal Airport is the newest general aviation airport on the Monterey Peninsula. It consists of approximately 845 acres of property. It has been open for public use since 1995 and is still dynamic and growing.

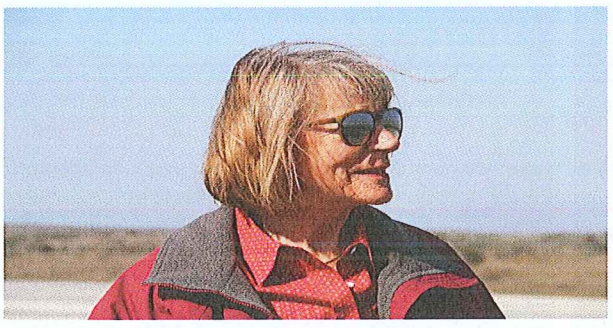
Marina Municipal Airport Reflection Stone

Prior to being permitted as a public-use airport, this facility was called, the "Fritzsche Army Airfield," within the Fort Ord Main Garrison during the 1940's and 1950's. Similar to numerous other general aviation airports within the State, the land was primarily used to support military/industrial operations, which included air strips, a motor park, aircraft fuel facilities, a sewage treatment plant, aircraft maintenance facilities, air traffic control tower, a fire and rescue station and aircraft hangars.

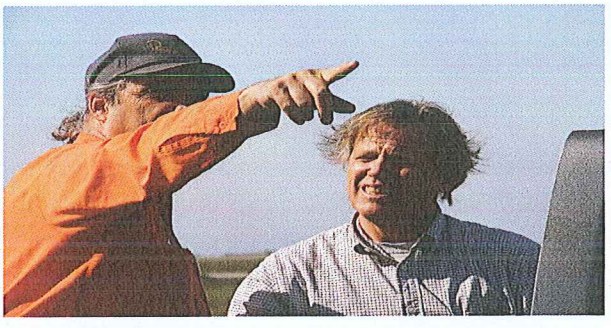
On July 1, 1991, the Base Realignment and Closure (BRAC) Commission recommended closure of Fort Ord and the relocation of the 7th Infantry Division to Fort Lewis, WA. The Fritzsche Army Airfield was converted into a general aviation facility that compliments the collocated University of California (UC) Center for Science, Technology, Education and Policy. The Naval Postgraduate School's Center for Interdisciplinary Remotely-Piloted Aircraft Studies (NPS/CIRPAS) is also based at the Marina Municipal Airport. The city hangar provides a 10,000 square foot floor with offices and work rooms. The facility includes a machine shop, electronics room and a calibration lab for the upkeep of scientific instrumentation. CIRPAS is a partnership program between the Naval Postgraduate School and the California Institute of Technology which employs both manned and unmanned aircraft to support atmospheric and oceanographic measurements.

The Marina Municipal Airport has a new Airport Administrative Assistant, Carol Tevebaugh, a certified flight instructor, and a Maintenance and Operations Manager, Jes Shortt, who has been the airport "fixture" for the past 25 years. Ms. Tevebaugh and Mr. Shortt make a great team by complimenting each other's knowledge and skills to keep the Marina Municipal Airport running as smoothly as possible, while fulfilling the State's safety requirements and the pilot's needs.

The airport boasts an Automated Weather Observing System (AWOS), which Ms. Tevebaugh states is a necessity with all the fog that regularly surrounds the airport. Mr. Shortt pointed out that the wind-T, in the shape of an airplane, had recently been painted. Ms. Tevebaugh turned over the latest copy of the new Airport Layout Plan dated February 9, 2010. Additionally, in the southeast corner of the airport, there are parachute jumps daily.



Carol Tevebaugh, (Marina Airport Administrative Assistant)

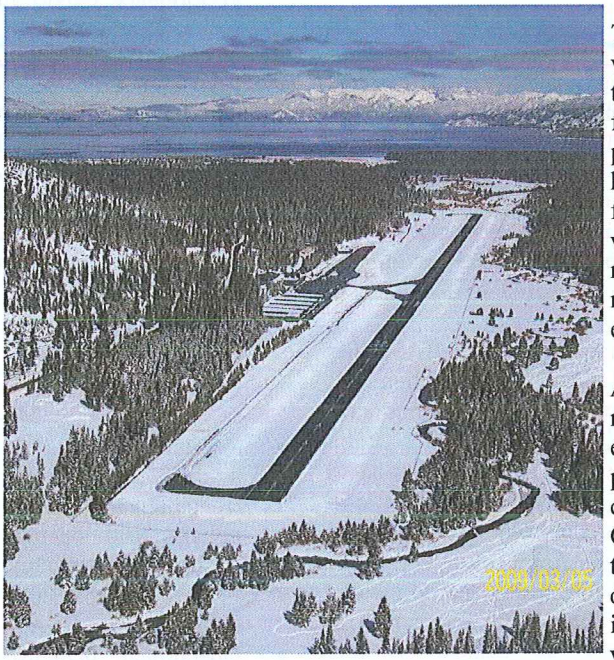


Jes Shortt (Maintenance and Operations Manager) and Don Haug (Aviation Safety Officer)

Environmental Improvements at Lake Tahoe Airport

By: Derek Kantar

Lake Tahoe Airport has risen from the ashes. Four years ago, the future looked bleak. The runway and aircraft parking apron pavements were failing. Environmental regulators and the City of South Lake Tahoe, airport sponsor and operator, seemed to be at an impasse regarding the airport's impact on the environment in the fragile Lake Tahoe Basin and whether the airport should even be closed to reduce those impacts. The largest of 63 rivers and streams that flow into Lake Tahoe lies east of the runway. Contaminants from the runway could potentially enter the river and be transported to the lake. Additionally, hundreds of trees had grown into the FAR Part 77 approach and transitional surfaces of the airport causing concern for Division of Aeronautics and FAA safety inspectors. For many years, environmental restrictions had prevented these trees from being cut.



The gravity of the situation fortunately resulted in airport staff, environmental regulators, Caltrans and FAA personnel putting their heads together to explore the potential of improving the airport while enhancing the environment. The airport had an environmental study conducted and concluded that the trees growing in the meadow adjacent to the river, east of the runway, and penetrating the transitional surface, are an invasive species. The health of the meadow and aquatic species in the river could be improved by replacing the trees with willows. Environmental regulatory agencies subsequently permitted several hundred of these trees to be cut and replaced with willows improving both airport safety and the environment. Additionally, in order to reduce the potential for particulates flowing down the river and into the lake, the first of several projects was undertaken on airport property and outside the security fence, to meander the relatively straight flowing river east of the runway and thereby reduce erosion. This project also included removal of hundreds of trees that caused safety concerns. An added benefit of this project to airport safety included changes to the river bottom resulting in less likelihood of large waterfowl feeding in the river thus reducing the threat of bird strikes.

Caltrans and FAA safety personnel were very supportive of these efforts to enhance safety and the environment. In 2008, the FAA provided a grant to reconstruct the failing runway pavement. Airport staff determined that the runway could be reduced in width from 150' to 100' (runway length to remain at 8541') without sacrificing safety while still serving the anticipated air traffic. Twelve feet of porous asphalt was added to each side of the new 100' wide runway to reduce sheet flow run-off from rain events and decrease erosion. The outer 13' of each side of the old runway footprint was replanted with meadow grasses further enhancing the environment.

This project was followed in 2009 with reconstruction of the portion of the aircraft parking apron that was failing and was a safety hazard. The project included the installation of a holding tank to collect de-icing fluid. This spring, porous asphalt will be added to the east side of the new ramp, as was done with the runway project, to further reduce erosion and enhance infiltration.

Airport staff have initiated numerous additional safety and environmental improvements in the past few years including the use of coyote decoys to discourage Canadian Geese from frequenting the airport, hydro seeding bare areas of the airport with native grasses, installing wood chips where grasses won't grow to reduce erosion, improving general housekeeping to reduce the potential to pollute the environment, and many others.

Staff at the FAA Western-Pacific Regional offices were so impressed with the improvements, that they awarded Lake Tahoe Airport with the Outstanding Airport Award for 2009 from among 400 airports in the region.

The airport is thriving. CALSTAR has operated from the airport providing vital air ambulance services to the region since 2001. The Blackhawk Squadron of the Civil Air Patrol provides many searches for missing aircraft. Mountain West Aviation, the airport Fixed Base Operator, stresses courtesy and customer service. The annual Lake In The Sky Air Show has become one of the best in the West.

The future of the airport is no longer in doubt. Lake Tahoe Airport will undoubtedly provide an ever increasing role in the National Air Transportation System.

Next Generation Implementation Plan

By: Patrick Miles

An update to the FAA's NextGen Implementation Plan came out this month, laying out a vision for National Airspace System (NAS) modernization between now and 2018. Among other things, it lists actions being taken to bring new systems on line; describes what pilots will experience in the future during different phases of flight; outlines some of the challenges associated with the transition; and specifies aircraft equipment requirements needed to fully utilize the new capabilities.

New System Developments

- The FAA has begun using Automatic Dependent Surveillance – Broadcast (ADS-B) to control air traffic over the Gulf of Mexico, achieved initial operating capability at Louisville, and is in the process of completing validation testing at in Philadelphia and Juneau, Alaska.
- There are now nearly 1,100 Localizer Performance with Vertical Guidance (LPV) approach procedures at airports where no ILS approach is available. (43 of them are in California).
- The Ground-Based Augmentation System (GBAS), has been approved for Category I operations, enabling IFR operations down to 200 feet AGL. GBAS systems have been installed at Memphis and Newark.
- Wide Area Multilateration (WAM), a ground-based surveillance technology, is being used to control traffic in Juneau, Alaska, and at four airports in Colorado.
- Dependent Staggered Parallel Approaches (1.5-mile separation) have been approved for closely spaced parallel runways (with centerlines less than 2,500 feet apart) to facilitate higher arrival rates at Seattle, Boston, Philadelphia, Cleveland and St. Louis.
- Airport Surveillance Detection Equipment – Model X (ASDE-X) is now operational at 27 airports, nine of which incorporate a capability to share surface surveillance data with aircraft and airport operators. California airports with operational ASD-X include Los Angeles, San Diego, and John Wayne-Santa Ana.
- National Airspace System (NAS) upgrades include: new RNAV Standard Instrument Departures (SID) and Standard Terminal Arrivals (STAR), Optimized Profile Descents (OPD), Tailored Arrivals, as well as 90 new Q and T Routes. (Q-Routes are essentially high-altitude en route short-cuts available only to GPS-equipped aircraft. Terminal Transition or T-routes allow GPS-equipped IFR flight around or through Class B and C airspace).

User Improvements

- By 2018, pilots, dispatchers and air traffic managers will have instant access to real-time weather information via the same data source.
- Pilots and controllers will talk less via radio as clearances are disseminated via data link.
- Airport surface movement will be linked (via ADS-B and ASDE-X) to departure and arrival sequencing, optimizing taxi routing, reducing taxi time, and enhancing ground safety.
- Enhanced RNAV routing and Required Navigational Performance (RNP) instrumentation (reduced separation) will allow multiple departure paths from a single runway, increasing the capacity of airports.
- RNP and Reduced Vertical Separation Minima (RVSM) will allow aircraft to fly the most optimal en route flight path, using trajectory-based metrics that factor in wind, weather, traffic and destination parameters.
- The arrival sequence will be planned hundreds of miles in advance, utilizing multiple precision paths to the runway. Appropriately equipped aircraft will fly precise horizontal and vertical paths from the descent point to the runway (Continuous Descent Approaches – CDA's) in all types of weather.

Major Challenges

- Variable maturity time for interdependent projects calls for a deliberate and incremental approach, not only in technology and infrastructure development, but also in FAA policies and operational practices that assure safety, security and environmental performance along the way.
- Procurement of state-of-the-art technologies necessitates revisions to the FAA's Acquisition Management System.
- Operational demonstrations and prototypes must be established to resolve uncertainty associated with unique airport and airspace issues.
- Incentives must be put in place to encourage aircraft operators to install the advanced avionics that will achieve full system benefits.

Aircraft Equipage

- VNAV – The ability to use barometric altitude, through a Flight Management System (FMS) to fly a specified vertical profile.
- FIS-B – Aeronautical information supplied to airborne ADS-B receivers, including Graphical National Weather Service (NWS) products, Temporary Flight Restrictions (TFR's) and Special-Use Airspace.
- ADS-B Out – Provides high accuracy, frequent aircraft position reports that can be used by ATC to provide radar-like separation in non-radar areas.

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Next Generation Implementation Plan

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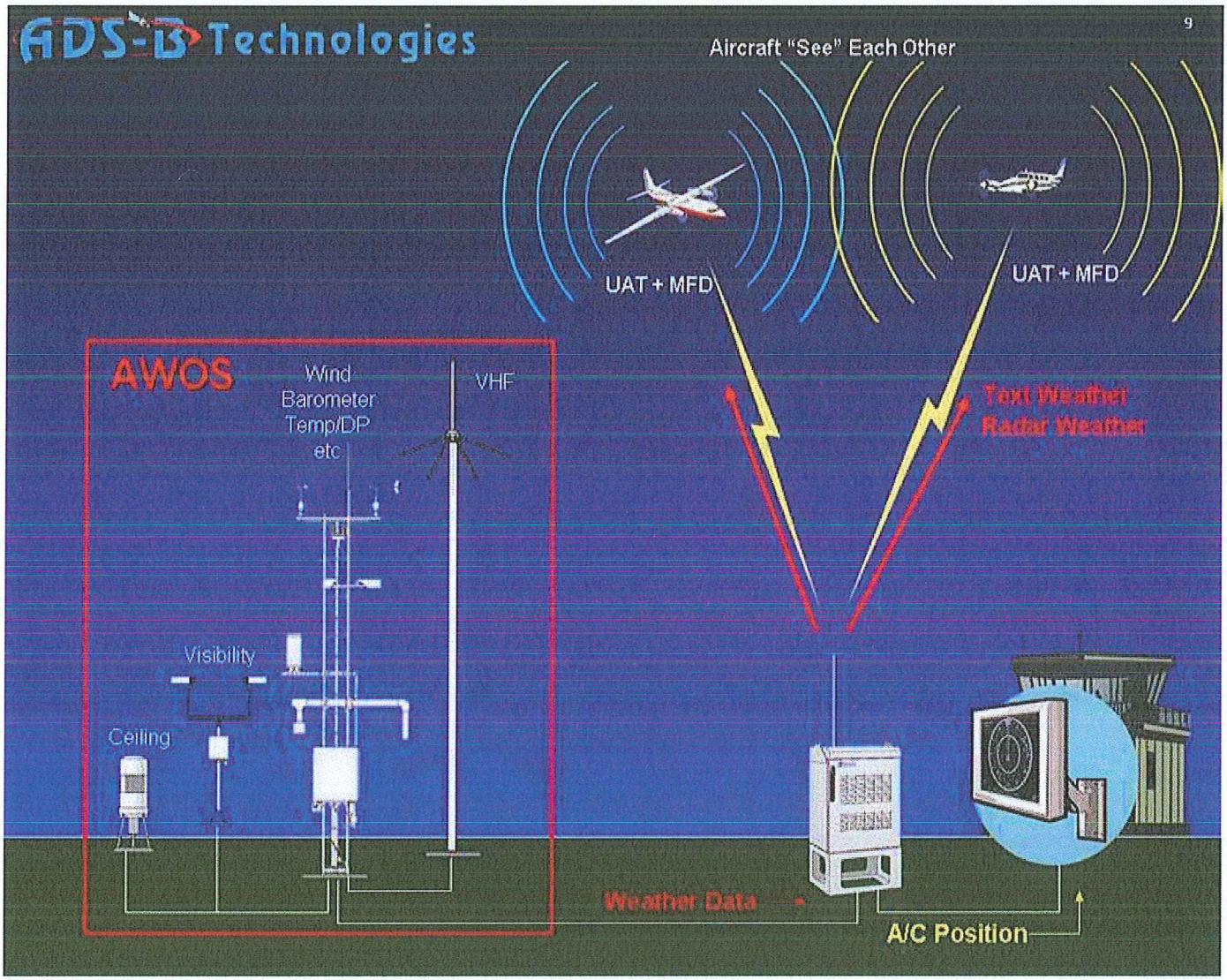
- ADS-B In – Provides traffic information to the cockpits of properly equipped aircraft that can be used for multiple applications.
- Data Communications – Reduce radio frequency congestion and oral miscommunications, allowing controllers to focus on providing more preferred routes and altitudes.
- Curved-path Capability – Allows for precise navigational tracking through turns.
- Electronic Flight Bags (EFB) – Provide flight crews with charts, manuals, weather and other data. They can be supplied with aeronautical information from authoritative sources and integrated with other flight deck instrumentation.
- Enhanced Flight Vision System (EFVS) – Sensors aboard aircraft that provide an enhanced real-time view of runways and surrounding airport environments.

Division of Aeronautics personnel are actively tracking these developments closely, and are facilitating implementation of the technology throughout California by working with the FAA and it's prime contractors to bring the multi-billion dollar project to completion within the next 5-10 years.



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2010 California Airport Land Use Planning Handbook Update

By: Ron Bolyard

The California Airport Land Use Planning Handbook 2010 update is well under way. A Technical Advisory Committee (TAC) has been established and is made up of a wide group of airport stakeholders including ALUC Staff, Airport Managers, Noise experts, Attorneys and Caltrans personnel. The TAC has met twice so far. We have sent out announcements to potential stakeholders including every City and County Planning department, Airport, and ALUC in the State of California seeking involvement and assistance in the update process. Stakeholder meetings were recently held in Sacramento, Fresno, and Ontario. Along with discussion about noise and safety, we received some new concerns that are around many of the State's public-use airports. One of those concerns has to do with energy projects. We are receiving comments and concerns about solar panel projects, wind farms, and thermal plumes from power plants and cooling towers. The consultant team is consolidating these comments as well as gathering and analyzing accident data. A draft of the Handbook will be available in June. The Handbook is expected to be completed in December 2010. If you have any questions please contact Ron Bolyard at (916) 654-7075 or email ron.bolyard@dot.ca.gov.

Upcoming Events

- 2010 FAA Western-Pacific Region Airports Conference, June 2-4, 2010, Los Angeles, CA.
- 64th Annual Southwest Chapter of the American Association of Airport Executives Summer Conference, July 17-21, 2010, Westin Glamp Quarter, San Diego, CA.
- 2010 National Association of State Aviation Officials Annual Convention and Tradeshow, September 11-15, 2010, Wichita, Kansas
- Association of California Airports Annual Conference, September 15-17, 2010, Inn By The Lake, South Lake Tahoe, CA.

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Do you have something noteworthy to suggest for future issues of the CalAERO Newsletter?
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